## FEATURES

- **Supports up to seven speeds—2.4, 4.8, 9.6, 19.2, 38.4, 56, and 64 kbps.**
- **DTE service rate-matching allows slower DTE devices to communicate over higher-speed digital line.**
- **CSU/DSU dialer gives you convenient, fingertip menu control.**

*Typical DDS configuration.*

CSU/DSU MS
(MT132V-R2)

56-kbps DDS line

Multiplexors
Central Telephone Office

56-kbps DDS line

CSU/DSU MS
(MT132V-R2)

DTE

(Pittsburgh)

DTE

(Boston)
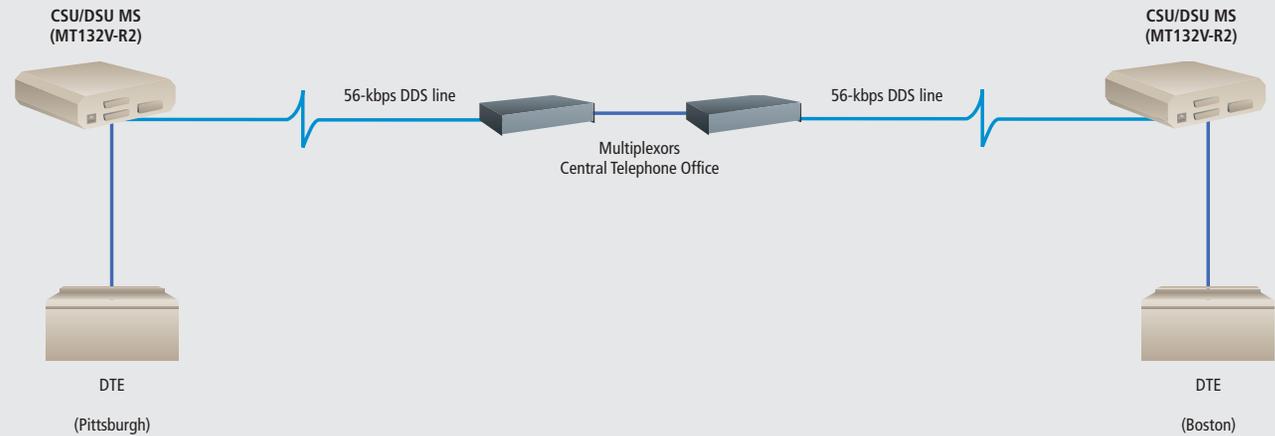
## OVERVIEW

The cost of Digital Data Service (DDS) lines has been steadily decreasing and is now comparable to the cost of leased analog lines. But DDS has two distinct advantages over analog service: data moves at higher speeds, allowing transmission of larger volumes; and data error rates are greatly reduced.

If you are making the decision to switch from analog to DDS, or if you want to expand the capabilities you now have with DDS, consider our CSU/DSU. Typically, a CSU/DSU replaces the modem in a network and supports either sync or async data formats at speeds of 2.4, 4.8, 9.6, 19.2, and 56 kbps in point-to-point or multipoint configurations (see the diagram above).

Our CSU/DSU MS supports the traditional five speeds, but also gives you the additional speeds of 38.4 and 64 kbps. If you need to transmit larger volumes of data, the higher speeds of the CSU/DSU MS are the solution. The CSU/DSU MS also supports a secondary async channel that enables you to piggyback data up to 2400 bps (this service must also be supported by your local telephone company).

Making the move from analog to digital doesn't mean replacing all your DTE devices with "fast" equipment designed for digital. The CSU/DSU MS has a DTE rate-matching feature that allows your slower DTEs to communicate over higher-speed digital lines (56-kbps only).

The CSU/DSU has a wide receiver range, from 0 to -45 dBm at 56-kbps loop rate, so you can transmit data over loops up to 18,000 feet long via 26 AWG wire.

## TYPICAL APPLICATIONS

- Routing/bridging.
- SNA/SDLC systems.
- High-speed asynchronous systems.
- Frame-Relay networks.
- Statistical multiplexor links.

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NETWORK SERVICES

2 of 3

- Digital Data Service (DDS) is a wide-bandwidth, private leased line that transmits data in digital, rather than analog, format. DDS lines are 4-wire circuits (Transmit pair, Receive pair) linked by special repeaters and separated from conventional analog lines. They can provide a higher data-transmission rate and maintain a higher level of data integrity than analog transmission service.
- DDS is a nationwide service of AT&T® that allows interconnection and transport of data for the regional Bell operating companies. The telephone companies provide a DDS-compatible service within their region and provide the local loop service to DDS customers.
- An ISU (Integrated Service Unit) replaces the modem in a network. A combination of the CSU (Channel Service Unit) and the DSU (Data Service Unit), it is usually called a CSU/DSU.
- The CSU/DSU MS provides the standard DDS rates of 2.4, 4.8, 9.6, 19.2 kbps sync or async, and 56 kbps sync. It also provides DDS rates of 38.4 and 64 kbps.
- The CSU/DSU MS supports DTE rate adaption to 2.4, 4.8, 9.6, 19.2, and 56 kbps at 56-kbps loop speed. Secondary channel operation is supported at all speeds except 64 kbps, with terminal rates of 75, 150, 300, 600, 1200, and 2400 bps. The asynchronous primary channel is supported at all rates up to and including 19.2 kbps with secondary and nonsecondary channel operation.

- Front-panel controls are used for configuration and testing. The CSU/DSU can generate and monitor either of two industry-standard test patterns during selected tests, and report the number of errors on a front-panel display. It will also respond to standard DSU and CSU loopback commands from the telephone company central office or DDS/V.54 commands from a remote CSU/DSU MS.
- Seven LEDs show the status of the primary and secondary DTE interface leads.
- Three data DTE connectors on the rear panel provide a primary-channel V.35 or RS-232, and a secondary-channel RS-232 port. In Switched-56 operation, the secondary channel is used for control. An 8-pin telco jack, the power cord, and a fuse are also located on the rear panel.
- Each unit includes an 8-foot (2.4-m) power cord. The power cord is terminated by a 3-prong plug that connects to a grounded power receptacle.

NOTE: Use only a grounded, 115-VAC, 60-Hz receptacle.

## TECH SPECS

**Diagnostics** — DTE, DTE/loop, DTE with test pattern, loop only, test pattern
**DTE Rates** — 2.4, 4.8, 9.6, 19.2 kbps sync or async; 38.4, 56, or 64 kbps sync
**User Controls** — (16) front-panel buttons: Enter, Up-Arrow, Down-Arrow, Cancel, 0–9, #, *
**Interface** — V.35 or RS-232 sync or async
**Connectors** — (2) DB25 female, (1) M/34 female, (1) RJ-48C
**Indicators** — (7) LEDs: RS, CS, TD, RD, CD, ALRM, TST
**Power** — 115 VAC, 60 Hz, 8 watts
**Size** — 2.3"H x 8.8"W x 10.3"D (5.8 x 22.4 x 26.2 cm)
**Weight** — 3 lb. (1.4 kg)

## WHAT'S INCLUDED
✦ The CSU/DSU MS
✦ RJ-45 line cable
✦ User's manual

| Item | Code |
|------|------|
| CSU/DSU MS | **MT132V-R2** |